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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF UTAH, CENTRAL DIVISION

CRYSTAL LAGOONS U.S. CORP. AND
CRYSTAL LAGOONS TECHNOLOGIES
INC.,

Plaintiffs,

vs.

CLOWARD H2O LLC,

Defendant

THIRD AMENDED COMPLAINT

Case No. 2:19-cv-00796-BSJ

JURY DEMANDED

Plaintiffs Crystal Lagoons U.S. Corp. and Crystal Lagoons Technologies Inc. (“Crystal Lagoons”), through its undersigned attorneys, for its Complaint against Defendant Cloward H2O LLC (“Cloward H2O”) alleges as follows:

I. THE PARTIES

1. Crystal Lagoons U.S. Corp. is a Delaware corporation with its principal place of business at 2 Alhambra Plaza, PH1B, Coral Gables, FL 33134.
2. Crystal Lagoons Technologies Inc. is a Delaware corporation with a place of business at 1209 Orange Street, Wilmington, DE 19801. Crystal Lagoons U.S. Corp. and Crystal Lagoons Technologies Inc. are collectively referred to as “Crystal Lagoons” herein unless the context indicates otherwise.
3. Cloward H2O is a Delaware corporation with its principal place of business at 2696 University Avenue, Suite 290, Provo, Utah 84604.

II. JURISDICTION

4. This is an action for patent infringement arising under the Acts of Congress relating to patents, 35 U.S.C. §§ 271, *et seq.*
5. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).
6. This Court has personal jurisdiction over Cloward H2O because Cloward H2O has a principal place of business in Provo, Utah.
7. Venue is proper in this District under 28 U.S.C. §1400(b) because Cloward H2O resides in this district, having its principal place of business here.

III. PATENT OWNERSHIP

8. On November 22, 2011, the United States Patent and Trademark Office (“PTO”) duly and legally issued U.S. Patent No. 8,062,514 (“the ’514 Patent”) to Crystal Lagoons Corporation LLC. The ’514 Patent claims priority to U.S. patent application no. 11/819,017, filed on June 25, 2007. The ’514 Patent also claims priority to Serial No. 3225-2006, filed November 21, 2006 in Chile.
9. Crystal Lagoons (Curacao) B.V. received all right, title and interest in the ’514 patent by way of assignment recorded in the U.S. Patent and Trademark Office on March 8, 2013.
10. Crystal Lagoons (Curacao) B.V. then entered a written exclusive license agreement on November 19, 2019 with Crystal Lagoons U.S. Corp., granting Crystal Lagoons U.S. Corp. all substantial rights in the ’514 Patent. These rights include the rights to make, use, have, import, sell, license, transfer, enforce, sue, collect past and future damages for infringement of the ’514 Patent, and otherwise fully exploit and utilize the asserted patent. Crystal Lagoons (Curacao) B.V. entered into this agreement with Crystal Lagoons U.S. Corp. with the intent of transferring all substantial rights under the Patent in Suit. The November 19, 2019 Agreement substituted for and superseded a prior agreement which predated the original complaint in this case.
11. The exclusive license agreement indicates that the title holder of the ’514 Patent (then known as Crystal Lagoons (Curacao) BV) grants to Crystal Lagoons U.S. Corp. "an exclusive, perpetual (without a right of revocation), fully paid-up, royalty-free, non-transferable, sub licensable license, solely within the Territory, to use or have used the CLUS IP, to make, have made, import, sell and have sold any products that utilize or incorporate the CLUS IP and otherwise fully exploit the CLUS IP within the

Territory." "CLUS IP" includes the '514 Patent in this case as well as other intellectual property. The Territory is the United States of America and its territories. The license agreement also includes a provision allowing for assignment of rights and obligations under the agreement with prior written consent of the other Party.

12. In December 2019, Crystal Lagoons (Curacao) B.V., due to a comprehensive international restructuring process, migrated to the United States and converted into a Delaware corporation called Crystal Lagoons Technologies, Inc., also a named plaintiff in the present action, while retaining nominal title to and ownership in the '514 patent.
13. Therefore, Crystal Lagoons U.S. Corp., the exclusive licensee of the '514 Patent, owns all substantial rights in Crystal Lagoons intellectual property in the U.S. including patents directed to water systems and related structures, business methods, water treatment systems, and the patent currently at issue in this lawsuit, United States Patent No. 8,062,514 (the "Patent in Suit" or "'514 Patent), titled: "Structure to contain a large water body of at least 15,000 m³." A true and correct copy of the '514 patent is attached hereto as Exhibit A. Crystal Lagoons U.S. Corp. presently holds all substantial rights in the Patent in Suit including, but not limited to, the right to make, use, have, import, sell, license, enforce, transfer, and otherwise fully exploit and utilize the asserted patent.
14. In addition to the '514 patent, Crystal Lagoons U.S. Corp. as an exclusive licensee also owns all substantial rights in other patents for related technology licensed from Crystal Lagoons (Curacao) B.V. (n/k/a Crystal Lagoons Technologies, Inc.), including:

- U.S. Patent No. 9,708,822, titled: “Process to maintain large clean recreational water bodies” (“the ’822 Patent) which was duly and legally issued on July 18, 2017 from U.S. Patent. Application No. 11/444,781 filed on July 28, 2014, claims priority to Application No. 11/819,017, filed on June 25, 2007, and also claims priority to Serial No. 3225-2006, filed November 21, 2006 in Chile, a true and correct copy of the ’822 patent is attached hereto as Exhibit B; and
- U.S. Patent No. 8,753,520, titled: “Localized disinfection system for large water bodies” (“the ’520 Patent) which was duly and legally issued on June 17, 2014 from U.S. Patent. Application No. 13/955,699 filed on July 31, 2013, which claims priority to PCT/EP2012/076170 filed on December 19, 2012, a true and correct copy of the of the ’520 patent is attached hereto as Exhibit C.

(Collectively the “Asserted Patents.”)

15. No parties other than the plaintiffs own any substantial rights in the Asserted Patents. No other parties have the right to bring suit for infringement of the Asserted Patents.

IV. BACKGROUND OF CONVENTIONAL SWIMMING POOLS AND CRYSTAL LAGOONS’ INNOVATIVE LAGOON TECHNOLOGY

16. Before providing a detailed analysis of the patented technology and accused structure, it’s important to understand that a lagoon built and operated using Crystal Lagoons technology is completely different than a conventional swimming pool. A lagoon has a large size, typically more than 2 acres (equivalent to more than 200 average-sized residential swimming pools), is built with a different structure than a swimming pool that uses structural concrete, and is not only used for swimming and bathing but also for practicing water sports, such as kayaking, sailing, rowing, and windsurfing, in

designated areas within the lagoon, as it can be seen below in some relevant photos of projects using Crystal Lagoons technology:

Figure 1: Aerial photo of 7-acre lagoon at Epperson Project, Florida



Figure 2: Aerial photo of 7-acre lagoon at SoleMia project, Florida



Figure 3: Aerial photo of 2-acre lagoon at Balmoral project, Texas



17. In comparison, an aerial photograph of the Cloward Hard Rock Lagoon can be seen in Figure 4 below, where Cloward designed the multiple conventional swimming pools (constructed with structural concrete, multiple inlets, and conventional swimming pool technology). Cloward also designed another large structure with all the features from a lagoon using Crystal Lagoons technology, showing the clear difference between the both types:

Figure 4: Cloward Hard Rock Lagoon Swimming Pools and Lagoon, both designed by Cloward H2O



18. Cloward admitted to infringing Crystal Lagoon's patents. A meeting between Crystal Lagoons and Cloward representatives was held on October 1st, 2019, where Mr. Corry Cloward from Cloward H2O met with Vice-President Mr. Eric Cherasia and Mr. Patrick George from Crystal Lagoons. During the meeting, Mr. Cloward acknowledged that Cloward infringed Crystal Lagoon's patents, and stated that they were using technology of the '514 patent (structure patent) for constructing the lagoon.

V. STRUCTURE PATENT INFRINGEMENT

THE '514 PATENT (STRUCTURE PATENT) IS BEING INFRINGED

19. Crystal Lagoons has developed and patented technology that allows building and maintaining large man-made lagoons with excellent water quality at low costs. Patents have been presented and granted confirming that structures to contain large water bodies, construction methods, water treatment processes, bottom cleaning systems, and localized disinfection systems, among others, represent a significant advance over conventional swimming pool technology. It is important to highlight that the '514 patent which claims a structure, and not other Crystal Lagoons patents related to water treatment technologies and systems.
20. Crystal Lagoons '514 patent, the structure patent, is being infringed.
21. Claim 1 of the '514 Patent (structure patent) states as follows: "A structure to contain a large water body, including a water body larger than 15,000 m³, for recreational use with color, transparency and cleanness characteristics similar to swimming pools or tropical seas, wherein the structure includes a bottom and walls covered with a plastic liner made of a non-porous material able to be thoroughly cleaned; wherein the depth of the structure to the bottom is about 0.5 meters or higher, wherein the structure includes a system of skimmers for the removal of impurities and surface oils, a fresh water feeding pipe system that allows entrance of fresh water and results in water removal by displacement of surface water through the skimmer system, and a pumping system including a coupling means connected to a moveable suction device for cleaning the plastic liner." Each of the elements of the Claim is infringed as shown below:

- 21.1. “A structure to contain a large water body, including a water body larger than 15,000 m³...” – This element is being infringed by the current lagoon structure at the Cloward Hard Rock Lagoon.
- 21.2. “...for recreational use with color, transparency and cleanness characteristics similar to swimming pools or tropical seas...” – This element is being infringed by the current lagoon structure at the Cloward Hard Rock Lagoon. The body of water is for recreational use, including swimming.
- 21.3. “...wherein the structure includes a bottom and walls covered with a plastic liner made of a non-porous material able to be thoroughly cleaned...” – This element is being infringed by the current lagoon structure at the Cloward Hard Rock Lagoon. **To provide more clarity and details for this element, see NOTE 1: Walls.**
- 21.4. “...wherein the depth of the structure to the bottom is about 0.5 meters or higher...” – This element is being infringed by the current lagoon structure at the Cloward Hard Rock Lagoon. As it is evident from the following picture, the depth of the accused structure is more than 0.5 m:

Figure 5: Person in the lagoon



21.5. “...wherein the structure includes a system of skimmers for the removal of impurities and surface oils,...” – This element is being infringed by the current lagoon structure at the Cloward Hard Rock Lagoon. **To provide more clarity and details for this element, see NOTE 2: Skimmers.**

21.6. “...a fresh water feeding pipe system that allows entrance of fresh water and results in water removal by displacement of surface water through the skimmer system,...” – This element is being infringed by the current lagoon structure at the Cloward Hard Rock Lagoon. The accused structure includes a fresh water feeding pipe that allows entry of fresh water and results in water removal by displacement of surface water through the skimmer as it can be seen in the following photo:

Figure 6: Fresh water feeding pipes



21.7. “...and a pumping system including a coupling means connected to a moveable suction device for cleaning the plastic liner.” – This element is being infringed by the current lagoon structure at the Cloward Hard Rock Lagoon. **To provide more clarity and details for this element, see NOTE 3: Pumping System.**

22. NOTE 1: Walls

22.1. Information and photos show the sloped walls, the flat bottom, and all the vertical walls were covered with a plastic liner.

Figure 7: Lagoon during construction showing liner in the vertical walls, where all the vertical walls were covered with a plastic liner



Figure 8: Lagoon during construction showing liner in vertical walls, where all the vertical walls were covered with a plastic liner



Figure 9: Lagoon during construction showing liner in vertical walls, where all the vertical walls were covered with a plastic liner



22.2. The definition of “walls” is “a structure that serves to hold back pressure (as of water or sliding earth),” “a material layer enclosing space,” and “something that acts as a barrier.” See [merriam-webster.com/dictionary/wall](https://www.merriam-webster.com/dictionary/wall) (Last Visited May 27th, 2020). None of the specification of the ’514 Patent, the prosecution history for the ’514 Patent, nor Cloward’s failed Motion to Dismiss and Motion for Summary Judgment puts forth a definition for the claim term “walls” that would contradict or otherwise modify this plain and ordinary meaning. Based on this definition, the structure at the Cloward Hard Rock Lagoon includes vertical walls and sloped walls that serve the purpose of holding back the water pressure. It has been estimated that the sloped walls at the Hard Rock Hollywood lagoon hold back 4 times more pressure than the vertical walls (as seen in the dictionary definition), and therefore these are the most important walls of the lagoon.

22.3. To provide more clarity, a cross section of the Cloward Hard Rock Lagoon can be seen in Figure 10, Figure 11, and Figure 12 below (showing excerpts from Cloward’s plans and schematics based on such plans), which shows that there are three main inner surfaces that contain the water body: the vertical walls, the sloped walls, and the flat bottom.

Figure 10: Excerpt of Cloward's Plans

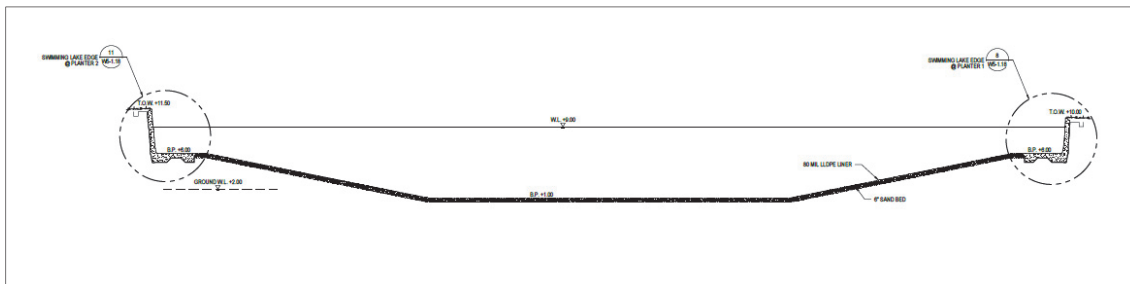


Figure 11: Schematic of the Lagoon Cross Section

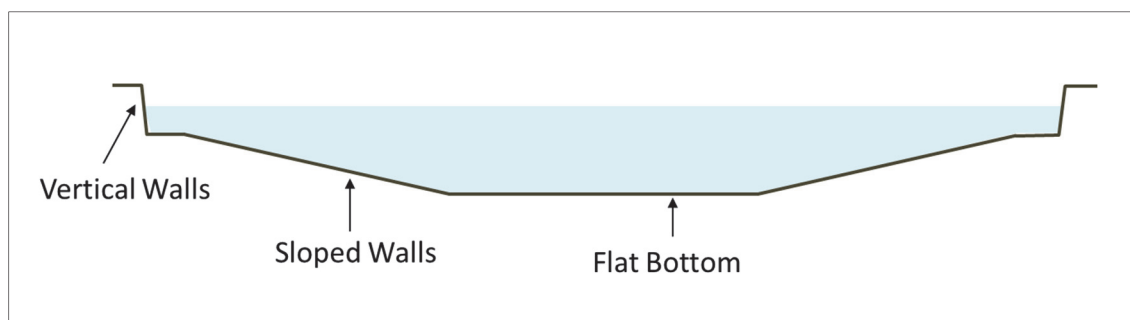
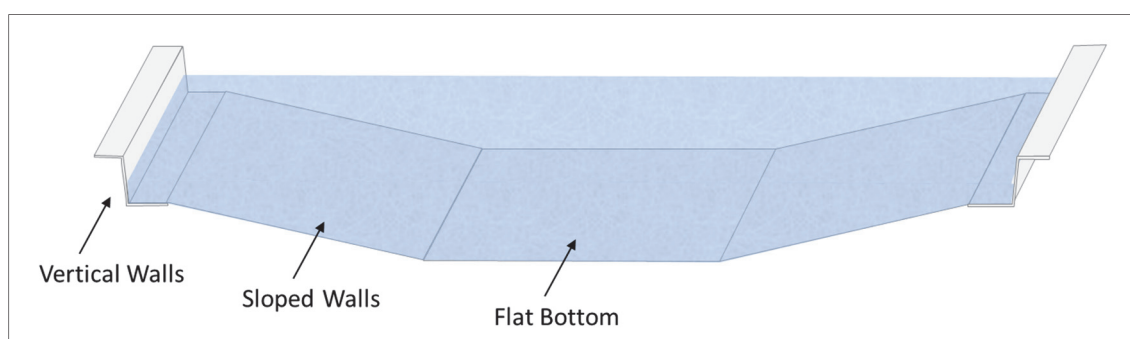


Figure 12: Angle View of Lagoon



22.4. The structure at the Cloward Hard Rock Lagoon was constructed with a liner that covers the flat bottom, the sloped walls, and all the vertical walls. This can be seen in Figure 13 below:

Figure 13: Liner covering vertical walls, sloped walls, and bottom



22.5. As it can be seen in the previous photo, the flat bottom, the sloped walls, and all the vertical walls were indeed constructed with a liner. Before the lagoon's opening, part of the walls that have liner were covered with a shotcrete layer, but the liner is still present in the structure, and more than 80% of the total lagoon has exposed liner such that the liner is able to be thoroughly cleaned, complying with the "including" requirement as claimed in the '514 patent (structure patent).

22.6. Regardless of the previous argument, it is important to highlight that patent infringement analysis involves a two-step process: first, determine the scope and meaning of the asserted patent claim, and second, compare the claims as

construed to the accused structure. Claim 1 recites a structure that “includes a bottom and walls covered with plastic liner made of a non-porous material able to be thoroughly cleaned.” “Includes” requires the following recitations, but is not limited to the recited elements. *Callicrate v. New Age Indus. Corp.*, No. 04-4008-JAR, 2005 WL 1027095, at *16 (D. Kan. Apr. 27, 2005). Therefore, based on the claim construction and its scope and meaning, this does not mean that 100% of such bottom and walls need to be covered with a plastic liner that can be thoroughly cleaned.

- 22.7. Notwithstanding, as shown before, the sloped walls, the flat bottom, and all the vertical walls are indeed covered with a plastic liner. Thus, even if a portion of the accused structure also includes walls covered with a shotcrete layer, there is still infringement as a matter of law.
23. Also, according to Claim 1 of the '514 patent, the non-porous material of the plastic liner needs to be able to be thoroughly cleaned by means of a suction device connected to a pumping system in order to allow vacuuming the liner covering the sloped walls and flat bottom of the structure, as it is explained below:
 - 23.1. The cleaning systems that are used all around the world in the lagoons using Crystal Lagoons technology are used only for cleaning (vacuuming) the sloped walls and flat bottom, and not for the vertical walls (as these are cleaned through brushing and not a vacuum system). The non-porous materials of the liners used for those systems are “able to be thoroughly cleaned,” as claimed, regardless of whether the moveable suction device is actually used to clean them.

23.2. Similarly, in the multiple swimming pools and in the lagoon at the Cloward Hard Rock Lagoon (both designed by Cloward), the vertical walls are not cleaned with a vacuuming system, and only the sloped walls and flat bottom are cleaned through conventional vacuuming devices controlled remotely or manually operated, as it can be seen in Figure 14 and Figure 15 below:

Figure 14: Conventional pool suction device from Cloward, not able to be used in vertical walls



Figure 15: Diver performing manual cleaning using a moveable suction device in the sloped walls



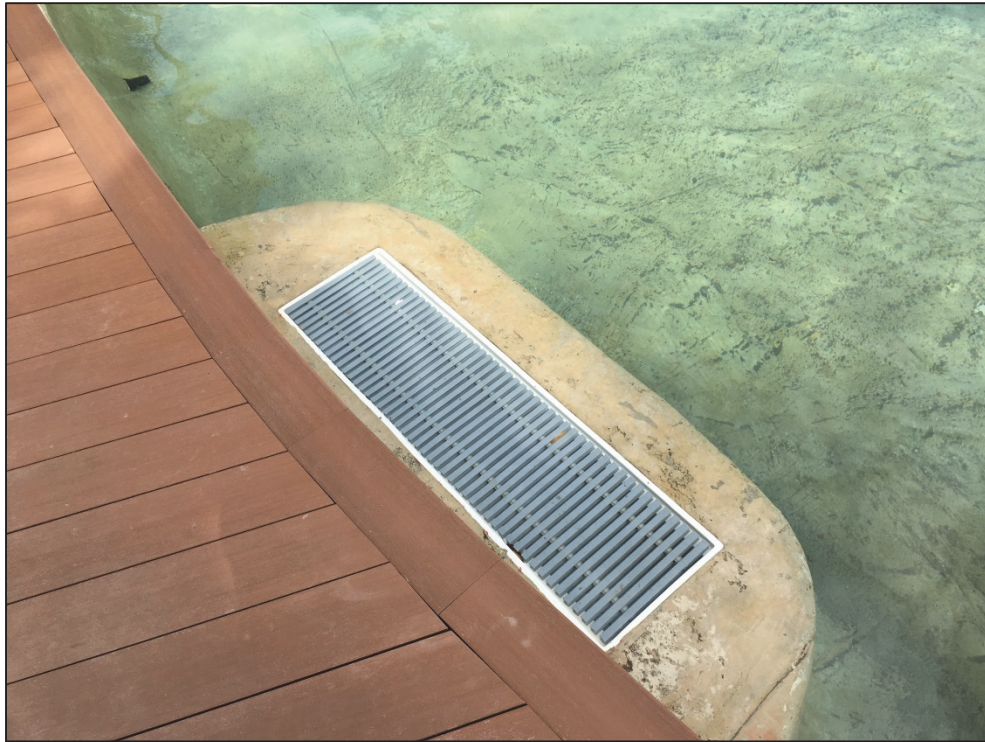
23.3. In summary, in the Cloward Hard Rock Lagoon, all vertical walls, the sloped walls and the flat bottom are covered with a plastic liner, and more than 80% of the total surface has exposed liner (not covered with a shotcrete layer) that is able to be thoroughly cleaned.

23.4. Further, a structure like the Cloward Hard Rock Lagoon that is built with a liner in the vertical walls, sloped walls and flat bottom allows to have construction costs that are very low compared to the conventional structural concrete walls and shell required for swimming pool construction, which is part of the novelty and inventive step of the '514 patent (structure patent) from Crystal Lagoons.

24. NOTE 2: Skimmers

24.1. The accused structure includes a system of skimmers for removal of impurities and surface oils as seen in Figure 16 below:

Figure 16: Skimmers



24.2. It's important to note that Claim 1 of the '514 patent (structure patent) does not define a specific skimmer type as it is a patent describing the structure to contain water, not related to the specific hydraulic system for the skimmers. The '514 patent mentions that skimmers may be surface slots or dumps, serving the purpose of removing floating contaminants independently of the type of skimmer used, which is only one element of the structure and not a specific type or configuration, as it can be shown in the following excerpts from the patent:

Figure 17: '514 Patent: Paragraph 4, Lines 64-65

60 to contain the water, and separation and flocculation (main-
tenance) processes of particles that make water cloudy and
impure are performed, in such a way that flocculated material
is suctioned by a suction device once flocculation has taken
place, and oily materials are removed through skimmers (sur-
65 face slots or dumps) of the structure of the present invention,
said structure having pipes that feed fresh water to fulfill the
desired objective.

Figure 18: '514 Patent: Paragraph 9, Lines 43-44

The relevance of the structure to solve the technical prob- 40
lem proposed in the process of the present invention is
detailed as follows:

The structure must have skimmers to remove surface oils
and particles, since otherwise they accumulate and deter-
45 water quality, even after performing all the chemical treat-
ment steps, since these do not remove floating greases or
solids. In this way, the final objective of obtaining "color,

Figure 19: '514 Patent: Paragraph 6, Lines 42-43

In FIG. 10, the following elements of the structure can be
40 observed: recycle pipe (39) onto which injectors are arranged;
injectors (40) arranged along all the perimeter of the water
body; water body (41) contained by the structure; skimmers
(42) for removal of floating contaminants such as water with
oils; water inlet line and chamber (43) where water is
45 extracted to feed the lagoon; zone of restricted natural circu-
lation (44); fresh water feeding point (45) to the lagoon.

25. NOTE 3: Pumping System

- 25.1. The accused structure includes a pumping system connected to a moveable
suction (vacuum) device for cleaning the plastic liner as seen in the
following figures:

Figure 20: Pumping system connected to a moveable suction device cleaning the sloped walls



Figure 21: The vacuum system operated by a boat

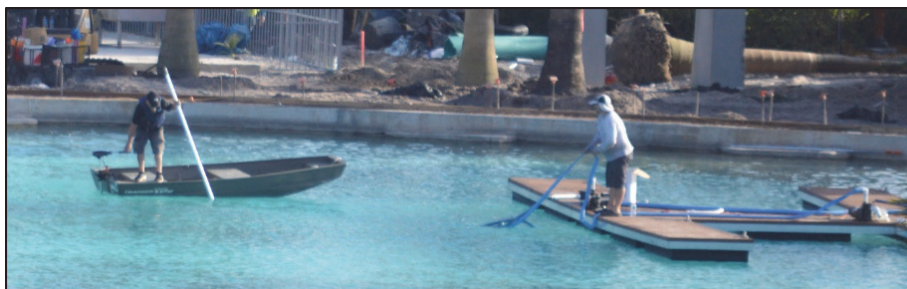


Figure 22: Diver operating the suction device, cleaning the sloped walls



Figure 23: Moveable suction (vacuum) device connected to a pumping system

25.2. It's important to note that Claim 1 of the '514 patent (structure patent) does not define a specific pumping system for providing suction power to the bottom cleaning system, as it is a patent describing the structure to contain water, not related to the specific configuration of the pumping system. The pumping system is connected to the suction device in order to provide suction power and achieve vacuuming of the bottom, however, it does not describe a specific type of pumping system, as it can be seen from the following patent excerpts:

Figure 24: '514 Patent: Paragraph 11, Lines 19-20

rations or slots to fasten the brushes in a continuous line, 15
supporting plates for the axles of the wheels and the rollers,
and a suction PVC line with openings (see description of
figures for more details).

The suction device operates by suctioning dirt through
connecting hoses by means of a pumping system, said device 20
being pulled by a system that includes a propelling device to
move the suction device, such as a boat, for instance, a drain-
ing chamber, plastic buoys for aiding a hose to float, a plat-

Figure 25: '514 Patent: Paragraph 11, Lines 37-39

The suction device is mainly formed by a structuring frame, a covering carcass with coupling means to be coupled to the pumping system, rolling means for continuous displacement over the surface to be cleaned and cleaning means consisting of a suction line and a brush line to remove the material to be cleaned by means of suction from the pumping system through the suction device. 35

The covering carcass comprises a laminar resin body that covers the structuring frame and the rolling and suction 40

VI. WATER TREATMENT PATENT INFRINGEMENT

WHAT CLOWARD BUILT IS SOMETHING THEY HAVE NEVER BUILT BEFORE, AND IT IS NOT A SWIMMING POOL LIKE THE ONES THEY BUILT IN THE VICINITY OF THE LAGOON.

26. It is important to mention that in order to provide crystal clear water and eliminate suspended particles for recreational water bodies, two different technologies can be used:

- (1) Traditional swimming pool filtration technologies that are usually applied in relatively small water bodies built with structural concrete, consist of a centralized filtration system, a large number of inlets/outlets, and a piping network located in the structure of the water body in order to allow the filtration of the entire volume of water homogeneously and efficiently many times per day depending on local regulations (in Florida it is required to filter the complete water volume 4 times per day).
- (2) Crystal Lagoons' technology, which uses a plastic liner for constructing the lagoon structure, and that uses flocculants to flocculate suspended particles that fall to the bottom and are then removed by a suction device, which is applied in

larger water bodies, and does not require the large number of inlets and large filtration systems from conventional swimming pool technologies.

27. To provide more clarity to the above explanation, see the figures below:

Figure 26: Swimming pool technology schematic

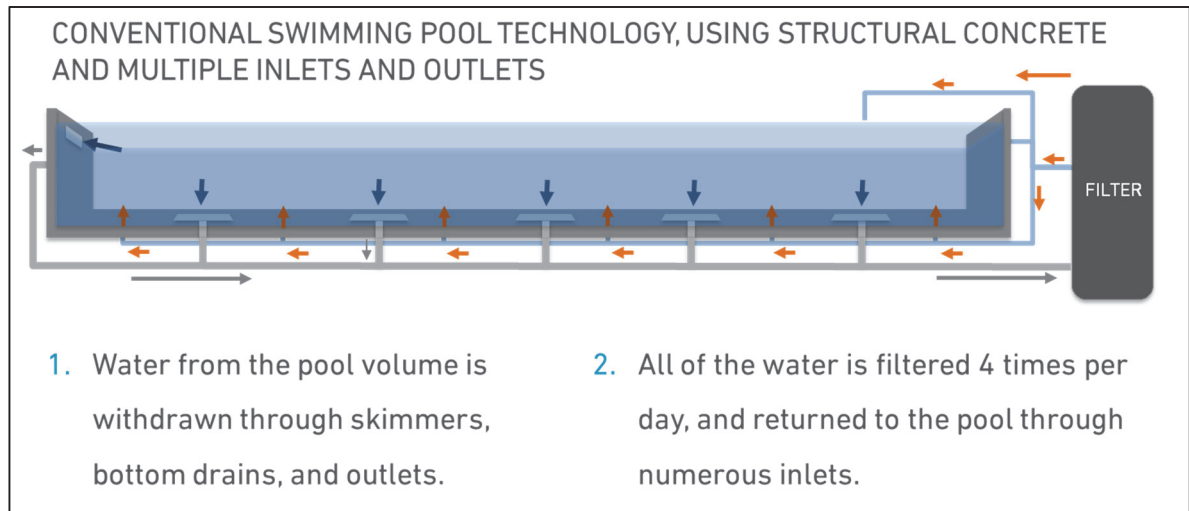
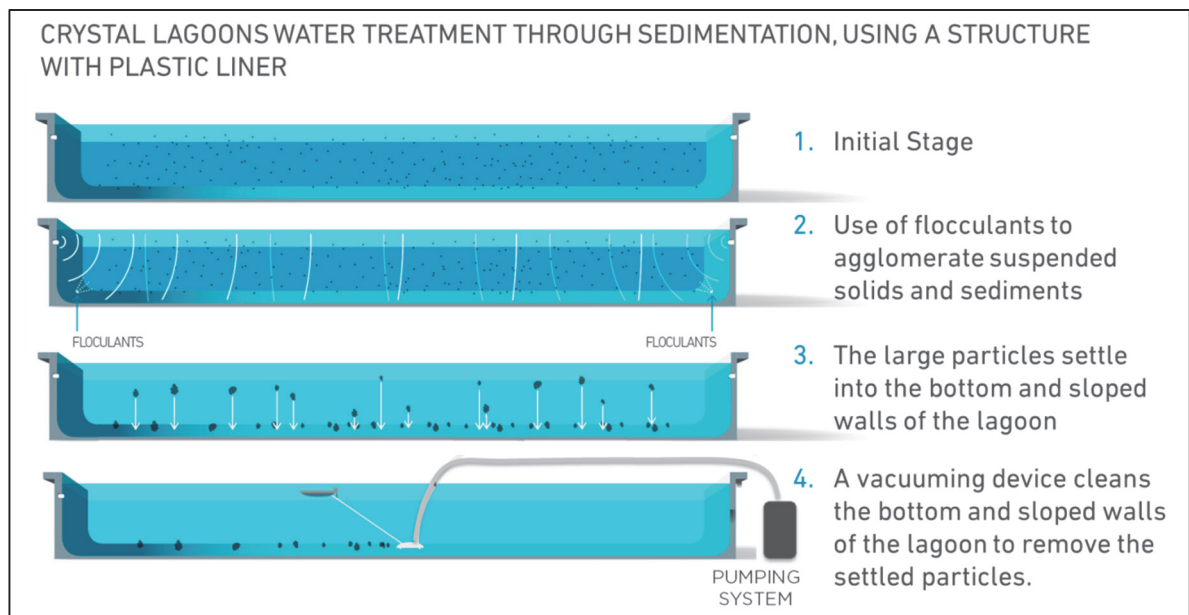


Figure 27: Crystal Lagoons' technology schematic



28. Crystal Lagoons has developed technology for maintaining large man-made lagoons with excellent water quality at low cost. Several patents have been granted confirming that these water treatment processes, bottom cleaning systems, and

localized disinfection systems, among others, represent a significant advance over conventional swimming pool technology.

29. Based on discovery to date Crystal Lagoons has a reasonable belief that Crystal Lagoons' patents related to water treatment technologies, specifically the '822 patent and the '520 patent (collectively the "Water Treatment Patents") are infringed.

The '822 patent

30. Claim 1 of the '822 patent, states as follows: "A process to maintain a water body, wherein the water body has a volume of at least 15,000 m³ and is housed in a structure having a bottom and walls and provided with skimmers, the process comprising: maintaining pH of water in the water body at pH 5 to 9; adding an oxidation-reduction potential (ORP) of at least 600 mV for at least 4 hours within a 48 hour cycle; adding a flocculating agent to the water at a concentration of 0.02 to 1.0 ppm at a frequency of at least once every 6 days to precipitate impurities in the water and to accumulate precipitated impurities at the bottom of the structure; removing precipitated impurities at the bottom of the structure; removing precipitated impurities from the bottom with a movable suction device; feeding the water body with inlet water to generate displacement of surface water containing impurities and surface oils and removing displaced surface water using the skimmers, the inlet water having iron and manganese levels lower than 1.5ppm and turbidity lower than 5 NTU, wherein the process is performed without traditional filtration, wherein traditional filtration comprises filtering the volume of water once or more in 24 hours." Each of the elements of the claim is infringed as shown below:

- 30.1. “A process to maintain a water body, wherein the water body has a volume of at least 15,000 m³ and is housed in a structure having a bottom and walls and provided with skimmers” – To the extent this preamble is a limitation, this element is infringed at the Cloward Hard Rock Lagoon. *See* ¶¶ 22-24, *supra*; *see also* CLOWARD0000261, CLOWARD0103852-0103853.
- 30.2. “. . . maintaining pH of water in the water body at pH 5 to 9” –This element is being infringed at the Cloward Hard Rock Lagoon. *See* CLOWARD000010 and CLOWARD0103852-0103853.
- 30.3. “. . . adding an oxidizing agent to the water to maintain an oxidation-reduction potential (ORP) of at least 600 mV for at least 4 hours within a 48 hour cycle” – This element is infringed at the Cloward Hard Rock Lagoon. *See* CLOWARD000015; CLOWARD0103852-0103853. Further, inspection of the lagoon uncovered evidence of calcium hypochlorite (chlorine-based disinfectant) on site and a noticeable odor of chlorine from the lagoon water.

Figure 28: Photograph of pallets containing calcium hypochlorite at the lagoon taken in September 2020.



30.4. “. . . adding a flocculating agent to the water at a concentration of 0.02 to 1.0 ppm at a frequency of at least once every 6 days to precipitate impurities in the water and to accumulate precipitated impurities at the bottom of the structure . . .” – This element is being infringed at the Cloward Hard Rock Lagoon. *See* CLOWARD0094627.

30.5. “. . . removing precipitated impurities from the bottom with a movable suction device . . .” – This element is infringed at the Cloward Hard Rock Lagoon. *See* Note 3 at ¶ 25, Figures 20-23, *supra*.

30.6. “. . . feeding the water body with inlet water to generate displacement of surface water containing impurities and surface oils and removing displaced surface water using the skimmers, the inlet water having iron and manganese levels lower than 1.5ppm and turbidity lower than 5 NTU. . .” – This element is infringed at the Cloward Hard Rock Lagoon. *See* ¶¶ 21.6, 24, and Figures 6, 16, *supra*; *see also* CLOWARD0000261, CLOWARD0000010.

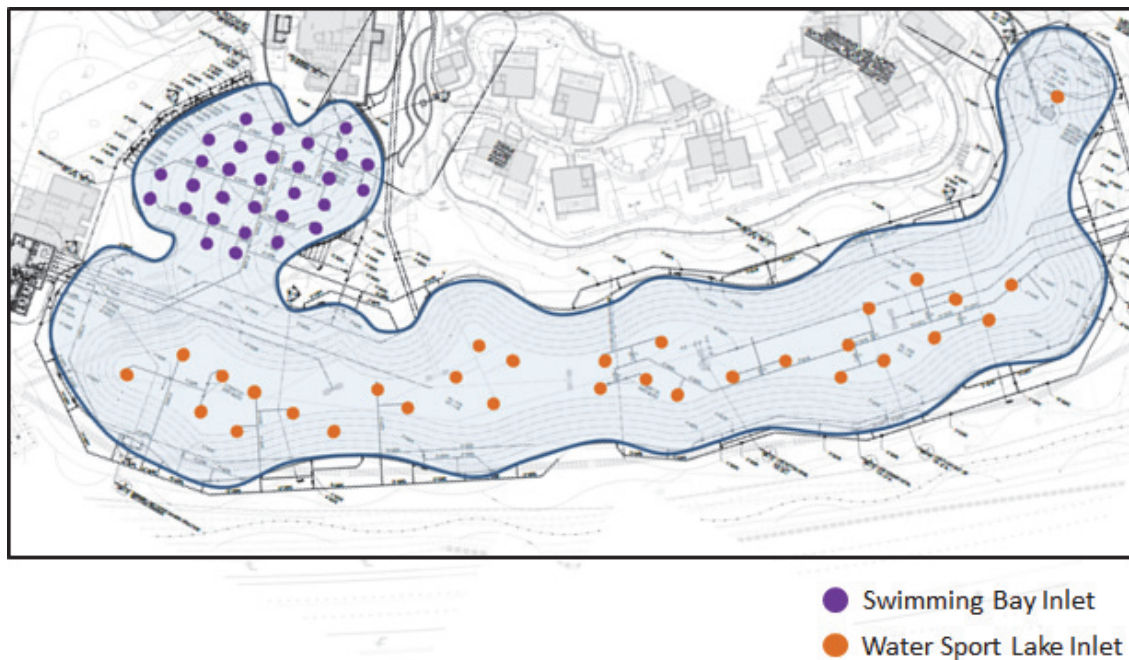
30.7. “. . . wherein the process is performed without traditional filtration, wherein traditional filtration comprises filtering the volume of water once or more in 24 hours.” – This element is infringed at the Cloward Hard Rock Lagoon.
To provide more clarity and details for this element, see NOTE 4: Filtration System.

31. NOTE 4: Filtration System

31.1. Crystal Lagoons reviewed the preliminary design plans of the Cloward Hard Rock Lagoon, which were produced by Cloward. Some of the features

shown in the plans can be seen in the following figure that includes numerous inlets:

Figure 29: Cloward Hard Rock Lagoon preliminary design plans from Cloward, which includes numerous inlets



31.2. The above referenced plans showed that the lagoon had a large number of inlets (shown as circles in the above Figures) as well as filtration equipment that theoretically achieved a filtration of the total volume of water 4 times per day, trying to assimilate to conventional pool filtration technology. The inlets are elements that allow introducing water into the lagoon, in order to achieve mixing and homogeneity of the water so that the filtration system works in an efficient manner.

31.3. Cloward, in their Summary Judgment Motion, claimed that the Cloward Hard Rock Lagoon was indeed built according to these preliminary plans

that included numerous inlets (considering that apparently the filtration rate was changed from 4 times per day to 2 times per day).

31.4. However, from on-site visits during construction and operation, it has been observed that the lagoon does not have the inlets as shown in the plans and the actually-built structure was modified relative to those plans to use Crystal Lagoons' technology, and therefore we believe that the statements from Cloward are not true, as it can be seen from the following photos during construction:

Figure 30: Detail of liner during construction with no evidence of inlets



Figure 31: Detail of liner during construction with no evidence of inlets



31.5. From the previously presented plans, the design of the Cloward Hard Rock Lagoon included more than 50 inlets and a filtration system able to filter the complete water volume 4 times per day, which was apparently changed to 2 times per day at a later stage. However, the alleged inlets have not been observed at the site during construction or operation of the lagoon, and therefore, even if Cloward alleges the lagoon was built according to such final plans, this does not appear to be true and we have reasonable doubt to believe that such inlets as depicted in the plans were built on site. Therefore, additional discovery and expert reports are necessary to determine if the lagoon was indeed built according to the construction plans that were intended to assimilate to a swimming pool system and if it effectively operates as a swimming pool, or if the on-site construction was changed to a water technology more similar to Crystal Lagoons' technology in terms of construction or operation, as it has been observed on-site.

31.6. Also, to reinforce Crystal Lagoons' doubts, if the system at the Cloward Hard Rock Lagoon was effectively designed and built as a conventional swimming pool with the proper amount of inlets and drains based on swimming pool regulations, then short circuits would be avoided and homogeneous filtration of the complete water body would be provided, and the lagoon would not be subject to the large amount of contamination that it currently has, and intensive bottom cleaning would not be required.

31.7. It is also important to mention that when the lagoon was opened, the filtration systems were not operational and a company and its crew were hired to maintain the lagoon (the same company which currently operates other projects using Crystal Lagoons' technology), where from information and belief flocculants were used to aid in settling particles into the bottom of the lagoon and performing thorough manual bottom cleaning (assimilating Crystal Lagoons' water treatment technology), which resulted in the lagoon having good aesthetics and cleanliness characteristics, as it can be seen in the following picture:

Figure 32: Cloward Hard Rock Lagoon



Once the filtration system and associated circulation systems started operating, the lagoon water quality started to deteriorate since the systems and water treatment technology were insufficient and cannot operate efficiently. As it can be seen from the photo below, the lagoon's inner surface is covered with sediments, and cleaning is required intensively and performed poorly, leaving traces of where the cleaning has passed (lighter areas in the bottom). This is typically a result of an inefficient filtration system that does not have the proper amount of inlets and outlets to produce homogeneity of the water volume. This is another reason why the structure and systems uses Crystal Lagoons' technology.

31.8. As previously mentioned, swimming pool technology and Crystal Lagoons' technology are different. This is even more evident given the fact that in the U.S., Crystal Lagoons has worked for over 7 years with the different health and environmental regulatory agencies across several states in order to create new regulations for the construction and operation of these lagoons, which are different than conventional swimming pool regulations. This process took years, as this concept and technology were an innovation and did not exist before, and therefore no regulations existed for these large man-made lagoons with high transparency and excellent water quality for recreational purposes such as swimming and bathing but also for the practice of water sports at very low building and operation costs.

31.9. For example, in Florida, the lagoons using Crystal Lagoons technology are classified as Public Bathing Places, a completely separate definition than swimming pools, with different construction and operation requirements. Also, Florida's former governor, Rick Scott, travelled to Chile and visited the lagoons with Crystal Lagoons' technology. In Texas, since there was no category where these types of lagoons would fit into, a new category was created by the Legislature by passing legislation, a process spearheaded by Crystal Lagoons. The result was that in Texas, the lagoons using Crystal Lagoons' technology are classified as "Artificial Swimming Lagoons", which allow for different construction and operation requirements than swimming pools to still provide a recreational water body. A similar process was followed in North Carolina, where a new category of "Artificial

Swimming Lagoons” was created through legislation since there were no regulations suitable for these large man-made lagoons, also requiring different construction and operation requirements than swimming pools, among others.

31.10. Cloward uses a technology that on information and belief does not comply with swimming pool requirements for construction and operation (based on Florida’s swimming pool regulations found in Rule 64E-9, FAC) in the design and implementation of the Cloward Hard Rock Lagoon. This could only be done here given the Tribe’s sovereign immunity at the site which allows them to not be subject to enforcement of such rules by the enforcement agency.

31.11. Further, recent on-site inspections of the Cloward Hard Rock Lagoon reveal the use of a supplemental filtration system as the installed filtration system operates only a few hours per day prior to becoming clogged. *See* Figures 35-36.

Figure 33: Location of supplemental filters



Figure 34: Aerial view of supplemental filters currently in use at the Cloward Hard Rock Lagoon



Figure 35: Close-up of supplemental filters currently in use at the Hard Rock Hollywood Lagoon



The '520 Patent

32. Claim 1 of the '520 Patent states as follows: "A method for controlling microbiological properties of a portion of water within a water body, comprising: a. identifying a portion of water intended for recreational purposes within the water body, the portion of water comprising one or more zones wherein: at least one zone is designated a sanitary compliance zone, at least one zone is designated a delimiting zone, and one zone is designated a most unfavorable zone, the most unfavorable zone corresponding to the zone that exhibits the lowest ORP value within the identified portion of water; b. maintaining at least a minimum ORP level in the portion of water for at least a minimum period of time, wherein the minimum ORP level and the

minimum period of time cannot be lower than the values calculated by: i. determining salinity of the water at the most unfavorable zone; and ii. determining the minimum ORP value based on the salinity of the water where: for salinities in the water between 0% and up to 1.5% the minimum ORP level is 550 mV; for salinities in the water higher than 1.5%, and up to 2.5%, the minimum ORP level is calculated by the following equation: $[\text{Minimum ORP, mV}] = 625 - 50 * [\text{Salinity of the Water, \% (Weight Percent)}]$; and for salinities in the water higher than 2.5%, the minimum ORP level is 500 mV; iii. determining the temperature of the water in the most unfavorable zone; and iv. determining the minimum period of time based on the water temperature, wherein: for water temperatures from 5° C. to 35° C., the minimum period of time is calculated by the following equation: $[\text{Minimum period of time, min}] = 80 - 2 * [\text{Temperature of the water, } ^\circ \text{C.}]$; and for water temperatures between 35° C. and up to 45° C., the minimum period of time is calculated by the following equation: $[\text{Minimum period of time, min}] = 5 * [\text{Temperature of the water, } ^\circ \text{C.}] - 165$; c. dispensing an effective amount of chemical agent into the identified portion of water in order to maintain at least the minimum ORP level during at least the minimum period of time at the most unfavorable zone, and d. repeating step c as needed to prevent the ORP in the most unfavorable zone from decreasing by more than 20% of the minimum ORP value. Each of the elements of the claim is infringed as shown below:

32.1. “a. identifying a portion of water intended for recreational purposes within the water body, the portion of water comprising one or more zones wherein: at least one zone is designated a sanitary compliance zone, at least one zone is designated a delimiting zone, and one zone is designated a most

unfavorable zone, the most unfavorable zone corresponding to the zone that exhibits the lowest ORP value within the identified portion of water. . .” – This element is infringed at the Cloward Hard Rock Hollywood Lagoon. *See* Figure 29, *supra*.

32.2. “b. maintaining at least a minimum ORP level in the portion of water for at least a minimum period of time, wherein the minimum ORP level and the minimum period of time cannot be lower than the values calculated by:

i. determining salinity of the water at the most unfavorable zone; and
 ii. determining the minimum ORP value based on the salinity of the water where: for salinities in the water between 0% and up to 1.5% the minimum ORP level is 550 mV; for salinities in the water higher than 1.5%, and up to 2.5%, the minimum ORP level is calculated by the following equation: $[\text{Minimum ORP, mV}] = 625 - 50 * [\text{Salinity of the Water, \% (Weight Percent)}]$; and for salinities in the water higher than 2.5%, the minimum ORP level is 500 mV;

iii. determining the temperature of the water in the most unfavorable zone; and iv. determining the minimum period of time based on the water temperature, wherein: for water temperatures from 5° C. to 35° C., the minimum period of time is calculated by the following equation: $[\text{Minimum period of time, min}] = 80 - 2 * [\text{Temperature of the water, } ^\circ \text{C.}]$; and for water temperatures between 35° C. and up to 45° C., the minimum period of time

is calculated by the following equation: [Minimum period of time,min]=5*[Temperature of the water,° C.]–165. . .”

– This element is infringed at the Cloward Hard Rock Lagoon. *See* CLOWARD000015; CLOWARD0103852-0103853; Further, inspection of the lagoon uncovered evidence of calcium hypochlorite (chlorine-based disinfectant) on site and a noticeable odor of chlorine from the lagoon water.

“. . . c. dispensing an effective amount of chemical agent into the identified portion of water in order to maintain at least the minimum ORP level during at least the minimum period of time at the most unfavorable zone. . .” – This element is infringed at the Cloward Hard Rock Lagoon. *See* CLOWARD000015; CLOWARD0103852-0103853; Further, inspection of the lagoon uncovered evidence of calcium hypochlorite (chlorine-based disinfectant) on site and a noticeable odor of chlorine from the lagoon water.

32.3. “. . . d. repeating step c as needed to prevent the ORP in the most unfavorable zone from decreasing by more than 20% of the minimum ORP value.” – This element is infringed at the Cloward Hard Rock Lagoon. *See* CLOWARD000015; CLOWARD0103852-0103853; Further, inspection of the lagoon uncovered evidence of calcium hypochlorite (chlorine-based disinfectant) on site and a noticeable odor of chlorine from the lagoon water.

VII. IMPORTANCE AND VALUE OF CRYSTAL LAGOONS’ TECHNOLOGY

33. Crystal Lagoons technology is one of the most innovative and important technologies of recent years in the world. On information and belief, all man-made lagoons with

crystal clear waters used for direct contact recreational purposes such as swimming and bathing and also for the practice of water sports around the world are built, operated, and maintained with Crystal Lagoons technology.

34. The story of how this technology was created started with Fernando Fischmann, a real estate developer and scientist, who had started planning a second home real estate development called San Alfonso del Mar, in a small town on Chile's central coast. Although the site had a fantastic view of the sea and was close to Santiago (Chile's capital), the local shoreline was unattractive due to cold-water temperatures, as well as the dangerous waves and undercurrents, which posed a risk to bathers, who were forbidden to swim or practice watersports in the area. Mr. Fischmann envisioned creating an enormous lagoon 0.6 miles long and 20 acres in surface, with crystalline turquoise waters that could provide a safe way to swim and enjoy watersports in a clean and family-friendly environment.
35. Mr. Fischmann traveled around the world to the U.S., Australia, Germany, and other countries looking for a company that was able to turn his vision into a reality, and he was repeatedly told that the only technology that existed to provide recreational water bodies was conventional swimming pool construction and operation technology and that it was not viable to have such large water bodies with excellent water quality and transparency, and he would never succeed in creating such a technology.
36. It's important to note that the San Alfonso del Mar lagoon is equivalent to 6,000 residential pools, and therefore using pool construction and operation technologies would result, for example, in requiring a complete concrete shell for creating the lagoon structure and expensive coatings, more than 2,000 inlets, and requiring 6,000

doses of chlorine and 6,000 filters to operate, which made this unviable technically and economically.

37. This gave ground to Mr. Fischmann's invention, related to an innovative and low-cost structure to contain this large recreational body of water at the project.
38. More specifically, if conventional swimming pool construction techniques were used, then extremely large amounts of concrete to create the pool shell would be required. Further, such large surfaces built with concrete would be exposed to a series of risks and potential damages from fissures, settlements, cracks, and others that could affect the structure integrity. Additionally, the required equipment to construct a large swimming pool in order to allow swimming pool treatment and filtration would require very high numbers of inlets and filters, among others.
39. Therefore, Mr. Fischmann invented a new structure, with specific technical features and elements in order to create a low cost structure to contain large water bodies used for recreational purposes, which was first used in the construction of the first lagoon at San Alfonso del Mar. This technology included, among others, the use of a plastic liner that is able to be thoroughly cleaned, to contain the water, not requiring having a complete concrete shell and where the liner is mostly installed directly over soil or compacted sand. This had not been done anywhere else in the world to create large man-made lagoons with crystalline water similar to tropical seas for recreational purposes, and up to date, after 13 years, there are no crystalline lagoons using liner other than the ones with Crystal Lagoons technology.
40. Mr. Fischmann, a trained biochemist, conducted research for more than 7 years to develop a technology that allows building this low cost structure and also for maintaining the water with a water treatment technology that uses up to 100 times

less chemicals and up to 50 times less electricity than conventional swimming pool technology. This state-of-the-art technology allows creating and operating recreational water bodies of any size with excellent water quality and transparency.

41. Mr. Fischmann's revolutionary innovations for building and maintaining large man-made lagoons with excellent water quality at low costs and in a sustainable manner allowed for the first lagoon in San Alfonso del Mar and paved the way for the rest of the world, having today more than 60 projects in different stages of operation and construction, and 600 projects in planning and negotiations stages, with lagoons of more than 30 acres of water surface. Crystal Lagoons has projects in the U.S., South Africa, Dubai, Indonesia, Thailand, Egypt, Spain, Turkey, Vietnam, Chile, Peru, Bolivia, Paraguay, Argentina, among other countries. Some examples can be seen below from photos from Google Earth and aerial photos of projects using Crystal Lagoons technology:

Figure 36: San Alfonso del Mar, Chile (20 acres) – From Google Earth

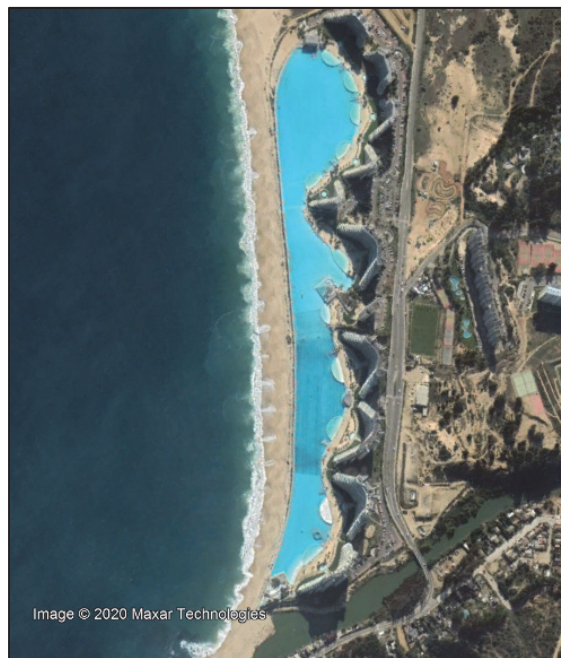


Figure 37: Aerial Photo of San Alfonso del Mar, Chile (20 acres)



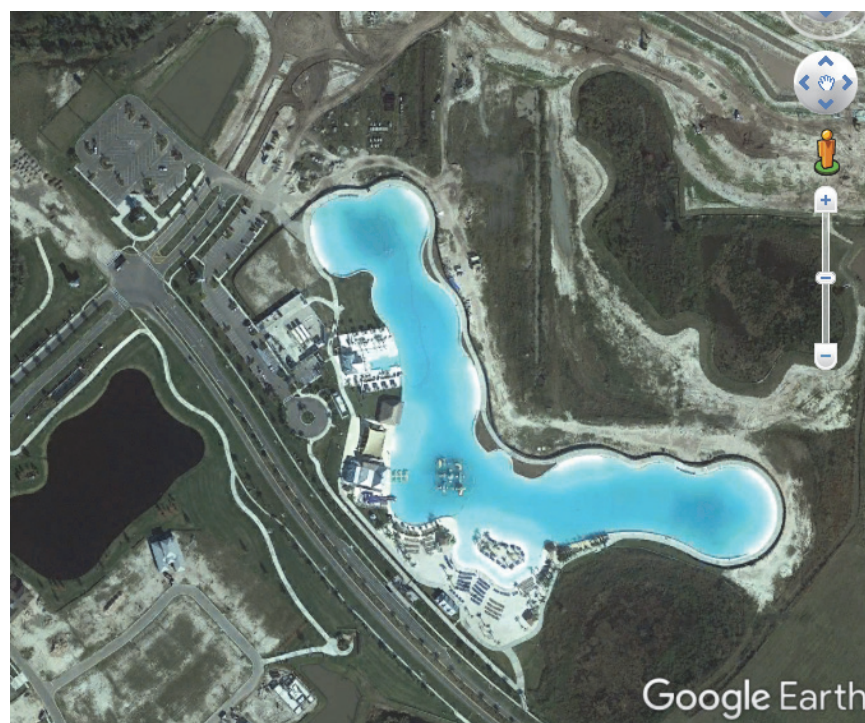
Figure 38: Treasure Bay Project, Indonesia (15,5 acres) – From Google Earth



Figure 39: Beachwalk Project, Florida (14 acres) - From Google Earth



Figure 40: Epperson Lagoon, Florida (7 acres) - From Google Earth



42. The following is a web link to a video of the Epperson Project, located in Florida, which shows the concept and technology from Crystal Lagoons, providing clear

differentiation from a conventional swimming pool. Link:
<https://www.youtube.com/watch?v=Bgk-mvgrcNQ>

43. This innovation has allowed to create real estate projects where residents have access to beach life at the doorsteps of their home, enjoying the man-made crystalline lagoon, many times far away from the sea, but also recently through his latest concept of the Public Access Lagoons that allow to take beach life to an urban setting having a ticketed access to the lagoon complex, changing the lifestyle of people in cities. Instead of having to drive long hours or fly to a tourist beach destination, the nearby population will be able to visit the beach through the Public Access Lagoon concept just steps away from their homes by paying and ticket, having access to several recreational, commercial, and cultural facilities and experiences, such as restaurants, practicing water sports, concerts, among others, changing the lifestyle of cities around the world.
44. Similar to the beginning of public parks 200 years ago, when the first city parks were created in England bringing natural forest to cities, this innovation brings a piece of the ocean to cities, incorporating the beach into an urban context.
45. This new Public Access Lagoon concept has gained so much drive that from October 2019 to date, 130 projects around the world have been signed with royalties for Crystal Lagoons that exceed US \$3.8 billion.
46. The importance of Crystal Lagoons technology is further backed from many facts. Firstly, Crystal Lagoons became the first Chilean "Unicorn" only one and half years after its creation. "Unicorns" are start-up companies valued in over 1 billion dollars. Secondly, Mr. Fischmann has been honored many times with prestigious international awards, such as Ernst &Young's "Entrepreneur of the Year", "Innovator of the Year,"

and "Businessman of the Year", being the only executive to receive these three awards. In 2016, he received the Innovation Stevie Award in Italy, also known as the Oscars of the business world and previously awarded to Steve Jobs and Jeff Bezos, and the "Real Innovator Award", by the London Business School, as well as the Green Apple Award received in the House of Commons at Westminster Palace, London, among many others. Mr. Fischmann is also director of the German Institute for applied science Fraunhofer Institute FCR. Thirdly, Mr. Fischmann has also been key note speaker at events organized by the Harvard Business School, MIT, Duke, Babson College, London Business School, Berkeley, among many other events and was recently interviewed by Stanford University radio for 40 minutes. Mr. Fischmann has also been given the O-1 visa in the U.S., for Individuals with Extraordinary Ability or Achievements. All of this given the impact of his technologies in the lifestyle of people around the world.

47. Finally, in January of 2020, Crystal Lagoons Technologies Inc. became incorporated as a U.S. company, which required a valuation of its Intellectual Property for tax purposes, resulting in a value of US \$3.3 billion. Today, the company is a technology company with patents in over 190 countries, where all Crystal Lagoons patents have been granted in 100% of the countries and territories where they have been examined.

VIII. DIRECT AND INDUCED INFRINGEMENT OF THE '514 PATENT
(STRUCTURE PATENT)

**CLOWARD WAS THE CREATOR OF THE PLANS AND TECHNICAL
SPECIFICATIONS THAT ALLOWED FOR THE CONSTRUCTION OF THE
CLOWARD HARD ROCK LAGOON**

48. Cloward H2O has infringed and induced infringement, and continues to infringe and induce infringement, literally and/or under the doctrine of equivalents, of at least independent claim 1 of the '514 patent by making, using, offering for sale, and/or selling the lagoon constructed for Hard Rock Seminole, and inducing others to at least make and use the lagoon.
49. Cloward H2O originally was involved in the Cloward Hard Rock Lagoon, but only as the engineer of record for the conventional water features, including the swimming pools and overlooking cabanas. Cloward H2O later took over as the engineer of record for the infringing lagoon by using Crystal Lagoon's concepts and proprietary technology.
50. Thus, Cloward H2O was the aquatic designer for and has built at the Hard Rock Hollywood site a structure to contain a large lagoon that, as required by the Crystal Lagoons' structure patent (the '514 patent), has color, transparency and cleanness characteristics similar to swimming pools or tropical seas. *See* Charlotte Coates, *Cloward H2O is the Aquatic Designer for Hard Rock Hollywood Expansion*, BLOOLOP (Jun. 17, 2019), <https://blooloop.com/news/cloward-h2o-hard-rock-hollywood/>.
51. For the Cloward Hard Rock Lagoon, Cloward "provided engineering designs and construction support for over 3.25 acres", including "a 2.3-acre recreation lake, where visitors can enjoy a range of water sports such as paddle-boarding and kayaking." *See* Charlotte Coates, *Cloward H2O Celebrates Success of Guitar Tower at the Seminole Hard Rock Hotel and Casino*, BLOOLOP (Apr. 22, 2020), <https://blooloop.com/news/cloward-h2o-guitar-tower-hard-rock/>.

52. Cloward H2O touts its involvement in building water projects under its management. Its website, clowardh2o.com, states, “[w]e specialize in all things water. Our team’s dedicated attention touches every aspect of a project, starting with the planning stages and powering through final implementation and maintenance.”
53. Cloward further admits on its website that “we have built” projects around the world:

Figure 41: Extract of Cloward's Website

HOVER OVER THE MAP TO SEE HOW MANY
PROJECTS **WE HAVE BUILT** AROUND THE WORLD

54. Cloward’s website lists 355 projects in North America that Cloward “built.” Cloward’s website also shows that it provides services including “planning and conceptual design,” “project management & construction documents,” “construction services,” and “commissioning and start-up.”
55. Cloward provided a similar management and construction role on the Cloward Hard Rock Lagoon at issue in this Third Amended Complaint. Cloward’s website cites and adopts a description of the Cloward Hard Rock Lagoon from April 2020. Cloward touts its role in building the lagoon using the following statements of how it “worked on the project” and “developed a 2.3-acre recreation lake:”

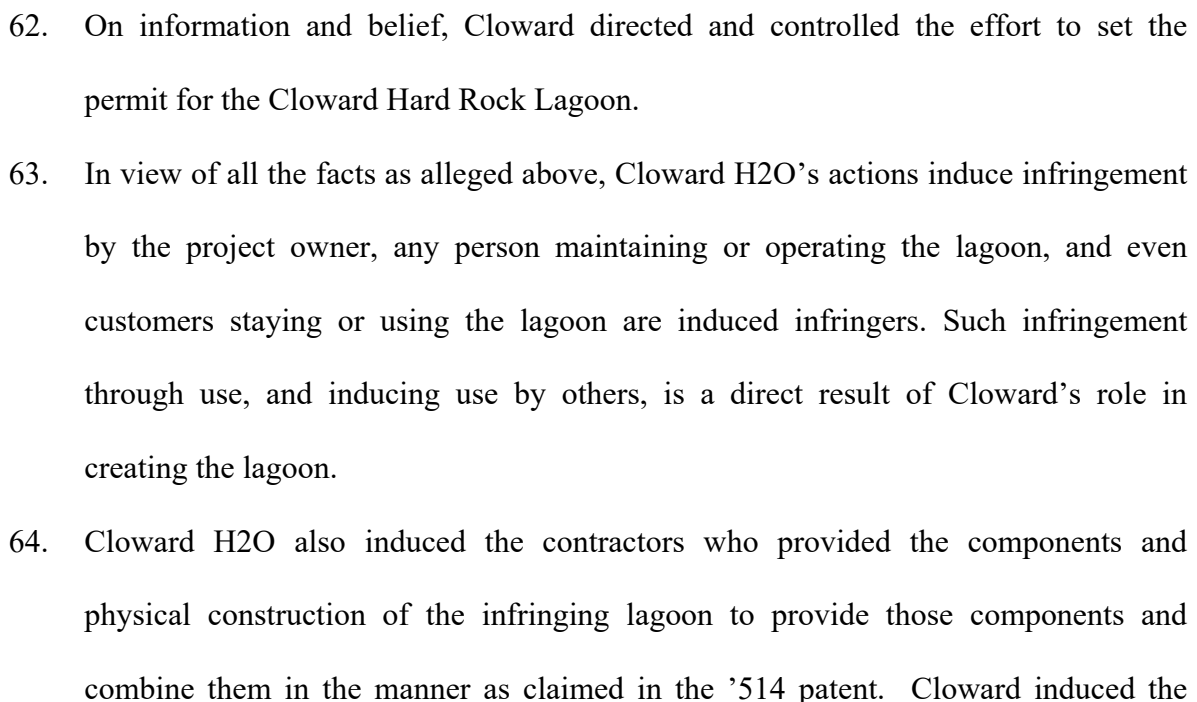
Figure 42: Extract of Cloward's Website

Pools, spas and water features

Cloward H₂O also developed a 2.3-acre recreation lake, where visitors can enjoy a range of water sports such as paddle-boarding and kayaking. In addition to this, it also designed the arrival portecochere water features and the Council Oaks Waterfall.

56. Cloward H2O acted as the engineer of record for the infringing lagoon, provided plans and engineering schematics used to build the accused lagoon structure, and worked with various contractors to carry out the lagoon's construction. Cloward H2O has even admitted to consulting and being on site numerous times during the construction of the lagoon. (*See* May 5, 2020 Hearing Transcript at 33 (“The Court: Well, then, you had somebody on site of the engineering firm of the supplier of plans to be of assistance to the contractor? Mr. Braithwaite: Yes, that’s correct . . .”).) Thus, Cloward H2O was on site during construction to aid the general contractors in building the lagoon, and provided oversight of the construction in their role as the engineer of record.
57. Cloward, as the engineer of record, and as provider of the construction plans, instructing contractors on how to build all components of the Hollywood lagoon water structure, controlled and directed the making of the various components of the infringing structure and was responsible for ensuring that all the components of the structure combined into the infringing lagoon structure. Cloward is liable for direct infringement as the maker of the infringing lagoon due to its central role as the mastermind in combining all the parts into the infringing whole.
58. Cloward also directly infringed by using the infringing structure. As engineer of record, Cloward visited the site of the infringing structure on numerous occasions. Cloward’s responsibility was to ensure all contractors performed their roles properly and all components contributing to the overall structure worked properly and integrated properly with the other components into an operational lagoon structure. Such testing and monitoring of the performance of the infringing lagoon structure constitutes infringing use.

59. Cloward became the lagoon's engineer of record based on proposing its plans to Hard Rock Seminole. Hard Rock Seminole purchased Cloward's services. Cloward's actions constitute offering to Hard Rock Seminole to sell the infringing lagoon structure and selling the structure to Hard Rock Seminole for the Hollywood project.
60. On information and belief, Cloward H2O maintains a relationship with Hard Rock Seminole related to maintenance and repair purposes. As such, Cloward H2O also used the infringing lagoon.
61. Cloward H2O put its name on plans for the lagoon project. Specifically, Cloward's logo is prominently displayed as set forth below. The plan documents are oversized and difficult to reproduce in readable form in this Complaint, but an example page (page 5) from Cloward's plan showing the Cloward Hard Rock Lagoon design is shown below:



making of the infringing lagoon by providing drawings, consultancy services, and advice to assist in building the Cloward Hard Rock Lagoon in a manner that ensured it would infringe the '514 Patent.

65. Cloward H2O knew of the '514 Patent at the time it undertook its role as engineer and mastermind of the Cloward Hard Rock Lagoon. Cloward's acts of inducing infringement of its infringement of the '514 patent were taken with knowledge that those actions would cause infringement of the '514 patent.
66. Cloward knew and intended that these contractors, HRS, and the customers of HRS make and use the Cloward Hard Rock Lagoon system in a manner that infringes the '514 patent. Cloward is liable for induced infringement of the '514 patent.
67. Further, Cloward's plans includes a number of instructions it provides to contractors, and as the "Engineer" requires contractors to follow the plans, as set forth, for example, in the provisions below from the plans:

Figure 44: Excerpts from Cloward's Plans

14. Failure to follow plans and construction documents constitutes change in project scope. The Engineer reserves the right to request replacement of any portion of the structure deviating from the plans where written approval has not been obtained. Deviation from construction documents without written approval relieves Engineer of all liability, and the Contractor assumes full liability.

D. CONSTRUCTION

1. All work must meet approval of the Project Engineer, Architect, and Owner.

IX. DIRECT AND INDUCED INFRINGEMENT OF THE '822 PATENT

68. Cloward created the plans and technical specifications for the water treatment system used by the Cloward Hard Rock Lagoon. *See* ¶¶ 50-58, *supra*. Cloward H2O has infringed and induced infringement, and continues to infringe and induce infringement, literally and/or under the doctrine of equivalents, of at least

independent claim 1 of the '822 patent by making, using, offering for sale, and/or selling the lagoon constructed for Hard Rock Seminole, and inducing others to at least make and use the lagoon.

69. Cloward also directly infringed by performing or causing the performance of the method steps of the '822 patent. As engineer of record, Cloward visited the site of the infringing structure on numerous occasions. Cloward's responsibility was to ensure all contractors performed their roles properly and all components contributing to the overall structure and water treatment worked properly and integrated properly with the other components into an operational lagoon structure. Such testing and monitoring of the performance of the infringing lagoon's water treatment system constitutes infringing use.
70. On information and belief, Cloward H2O maintains a relationship with Hard Rock Seminole related to maintenance and repair purposes. As such, Cloward H2O also performs the infringing water treatment method at the Cloward Hard Rock Lagoon.
71. On information and belief, Cloward directed and controlled the effort to set the permit for the Cloward Hard Rock Lagoon including permitting relating to the water treatment methods utilized by the infringing Cloward Hard Rock Lagoon.
72. In view of all the facts alleged above, Cloward H2O's actions induce infringement by the project owner, any person maintaining or operating the Cloward Hard Rock Lagoon. Such infringement through use, and inducing use by others, is a direct result of Cloward's role in creating the lagoon.
73. Cloward H2O also induced the contractors who provided the components and physical construction of the infringing Cloward Hard Rock Lagoon to provide those components and combine them in the manner as claimed in the '822 patent. Cloward

induced the making of the infringing lagoon by providing drawings, consultancy services, and advice to assist in building the Cloward Hard Rock Lagoon in a manner that ensured it would infringe the '822 Patent.

74. Cloward H2O knew of the '822 Patent at the time it undertook its role as engineer and mastermind of the Cloward Hard Rock Lagoon. Cloward's acts of inducing infringement of the '822 patent were taken with knowledge that those actions would cause infringement of the '822 patent.
75. Cloward knew and intended that these contractors and the Hard Rock Seminole operate the Cloward Hard Rock Lagoon water treatment system in a manner that infringes the '822 patent. Cloward is liable for induced infringement of the '822 patent.

X. DIRECT AND INDUCED INFRINGEMENT OF THE '520 PATENT

76. Cloward created of the plans and technical specifications for the water treatment system used by the Cloward Hard Rock Lagoon. *See* ¶¶ 50-58, *supra*. Cloward H2O has infringed and induced infringement, and continues to infringe and induce infringement, literally and/or under the doctrine of equivalents, of at least independent claim 1 of the '520 patent by making, using, offering for sale, and/or selling the lagoon constructed for Hard Rock Seminole, and inducing others to at least make and use the lagoon.
77. Cloward also directly infringed by performing or causing the performance of the method steps of the '520 patent. As engineer of record, Cloward visited the site of the infringing structure on numerous occasions. Cloward's responsibility was to ensure all contractors performed their roles properly and all components contributing to the

overall structure and water treatment worked properly and integrated properly with the other components into an operational lagoon structure. Such testing and monitoring of the performance of the infringing lagoon's water treatment system constitutes infringing use.

78. On information and belief, Cloward H2O maintains a relationship with Hard Rock Seminole related to maintenance and repair purposes. As such, Cloward H2O also performs the infringing water treatment method at the Cloward Hard Rock Lagoon.
79. On information and belief, Cloward directed and controlled the effort to set the permit for the Cloward Hard Rock Lagoon including permitting relating to the water treatment methods utilized by the infringing Cloward Hard Rock Lagoon.
80. In view of all the facts alleged above, Cloward H2O's actions induce infringement by the project owner, any person maintaining or operating the Cloward Hard Rock Lagoon. Such infringement through use, and inducing use by others, is a direct result of Cloward's role in creating the lagoon.
81. Cloward H2O also induced the contractors who provided the components and physical construction of the infringing Cloward Hard Rock Lagoon to provide those components and combine them in the manner as claimed in the '520 patent. Cloward induced the making of the infringing lagoon by providing drawings, consultancy services, and advice to assist in building the Cloward Hard Rock Lagoon in a manner that ensured it would infringe the '520 Patent.
82. Cloward H2O knew of the '520 Patent at the time it undertook its role as engineer and mastermind of the Cloward Hard Rock Lagoon. Cloward's acts of inducing infringement of the '520 patent were taken with knowledge that those actions would cause infringement of the '520 patent.

83. Cloward knew and intended that these contractors and the Hard Rock Seminole, operate the Cloward Hard Rock Lagoon water treatment system in a manner that infringes the '520 patent. Cloward is liable for induced infringement of the '520 patent.

XI. DAMAGES AND HARM TO PLAINTIFFS FROM THE DIRECT AND INDUCED INFRINGEMENT

84. Crystal Lagoons is concerned that its image will be damaged by Cloward H2O's infringing acts as, on information and belief, aspects of the infringing lagoon involve undesirable environmental consequences that are avoided when Crystal Lagoons controls the design and implementation of the technology. This harm risks irreparably damaging the image of the Crystal Lagoons technology and of Crystal Lagoons as a company.
85. Crystal Lagoons has complied with the marking requirements of 35 U.S.C. § 287, at least through notifying Cloward H2O before this complaint was filed that it was infringing the Asserted Patents through its actions at the Cloward Hard Rock Lagoon, and through delivering a copy of the original complaint and the '514 patent to the President of Cloward H2O via overnight delivery on October 21, 2019. Cloward H2O also had actual knowledge of at least the Asserted Patents prior to receiving notice of this complaint.
86. Cloward H2O is and has been on notice of its infringement of the '514 patent before Crystal Lagoons filed and provided notice of this Complaint. Cloward has admitted it infringed. Thus, Cloward H2O's infringement of the '514 patent through its efforts

to make, use, and/or sell the Hard Rock Hollywood lagoon system constitutes willful infringement.

87. Cloward H2O is and had been on notice of its infringement of the Water Treatment Patents, the '822 patent and the '520 patent before Crystal Lagoons filed and provided notice of its Third Amended Complaint as described above herein. Thus, Cloward H2O's infringement of the Water Treatment patents through its efforts to make, use, and/or sell the Cloward Hard Rock Lagoon system constitutes willful infringement.
88. Crystal Lagoons has been damaged by Cloward H2O's infringement of the Asserted Patents and the tarnishing of the reputation of lagoon-sized recreational water structures. Crystal Lagoons will also continue to be damaged by Cloward's actions in the future unless Cloward H2O is permanently enjoined from infringing, directly and/or indirectly, the Asserted Patents.
89. Further, Crystal Lagoons learned that a bid had gone out for the Cloward Hard Rock Lagoon to several general contractors, showing parts of lagoon labeled as a "Crystal Lagoon" as based on Crystal Lagoons registered trademark, which produced confusion in the market as numerous calls were received from contractors asking quotes on Crystal Lagoons technology, as it was clearly understood Crystal Lagoons was behind this lagoon. This confusion has produced important damage to Crystal Lagoons economically and to its image.
90. Damages are due in an amount not less than a reasonable royalty. For the Cloward Hard Rock Lagoon, the final proposed royalty, by Crystal Lagoons to Hard Rock Seminole, was US \$8,000,000.

91. The lost profits for which Cloward H2O is liable are only a fraction of the damages Crystal Lagoons has and is likely to suffer from the infringement. To date, Crystal Lagoons has been the exclusive provider of its patented and revolutionary large scale tropical-quality water structures in the U.S., and is known worldwide as the only provider of these prestigious and valuable facilities. Crystal Lagoon's valuation and ability to secure financing is greatly enhanced by this exclusivity. The valuation of Crystal Lagoons intellectual property is estimated to be in excess of \$3.3 billion dollars.
92. Cloward H2O's infringement has damaged the exclusivity Crystal Lagoons has earned by virtue of its R&D efforts and intellectual property. The lost exclusivity is likely to significantly reduce the valuation of Crystal Lagoons and could impede its ability to secure financing for further growth.
93. Cloward H2O's infringement also creates the risk of damaging the reputation of high-quality lagoon-sized water facilities that Crystal Lagoons has carefully developed over many years.
94. Monetary damages are significant, but will be inadequate to fully compensate Crystal Lagoons for these various forms of damages. A permanent injunction is also necessary to redress the full extent of the harm caused by the infringement as described herein.
95. Cloward H2O was well aware of Crystal Lagoon's ownership of the proprietary technology used in the accused structure and had knowledge of the Asserted Patents. Cloward knew it was copying Crystal Lagoon's unique technology to build a structure significantly different from any structure Cloward H2O had built before. The facts as set forth above, including but not limited to Cloward H2O's willful

infringement and its conspiring with other entities who breached NDAs with Crystal Lagoons to replace Crystal Lagoons on the Hollywood lagoon project, make this an exceptional case justifying a significant enhancement of any monetary damages award and providing grounds for an award of attorney's fees as well.

XII. REQUEST FOR RELIEF

Crystal Lagoons requests the following relief:

- A. A judgment that Cloward H2O infringed and induced infringement of United States Patent No. 8,062,514, United States Patent No. 9,708,822, and United States Patent No. 8,753,520 and that such infringement was willful;
- B. An injunction enjoining and restraining Cloward H2O, its officers, directors, agents, servants, employees, attorneys, and all others acting under or through it from directly or indirectly infringing United States Patent No. 8,062,514, United States Patent No. 9,708,822, and United States Patent No. 8,753,520;
- C. A judgment and order requiring Cloward H2O to pay all damages arising out of Cloward H2O's infringement of United States Patent No. 8,062,514, United States Patent No. 9,708,822, and United States Patent No. 8,753,520, including treble damages for willful infringement as provided by 35 U.S.C. § 284, with interest;
- D. A judgment and order directing Cloward H2O to pay the costs and expenses of this action and attorneys' fees as provided by 35 U.S.C. § 285 and under other applicable law, with interest; and
- E. Such other and further relief as this Court may deem just and equitable.

XIII. DEMAND FOR JURY TRIAL

Crystal Lagoons hereby demands that all issues be determined by jury.

Respectfully submitted,

Date: November 16, 2020

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